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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/760,069 | 01/16/2004 | Robert Keller | 79980 | 1962 |

22242 7590 11/16/2005

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| EXAMINER | |
|---|---|
| HEINRICHS, CHRISTOPHER P | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2837 | |

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/760,069 | KELLER ET AL. | |
| | Examiner | Art Unit | |
| | Christopher P. Heinrichs | 2837 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *13 January 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5,6 and 9-13* is/are rejected.

7)☒ Claim(s) *4,7 and 8* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12/23/2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1/13/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Drawings*

1. Figures 4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Claim Objections*

2. Claim 1 is objected to because of the following informalities: "changes in a rate movement of the barrier" in the line 20 should read, "changes in a rate of movement of a barrier". Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 11 recites the limitation "the sensed operational variable speed of the motor" in lines 4-5 of page 14 of the claims. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1, 3, 5, 6, 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5,557,887 to Fellows et al.

8. With regard to claims 1 and 5, and 6 and 10, Fellows discloses a barrier movement operator (fig 1) comprising an A.C. motor (fig 7 item 14 and fig 2 item 15) having a rotatable rotor connected to a barrier (col 3 lines 50-55) for movement thereof; sensing apparatus (fig 7 item 108, col 7 lines 65-66) to generate motor signals (the output of the amplifier of fig 7 item 110 and col 8 line 1) representing an operational variable of the motor (current drawn); controller (fig 7 item 90) for controlling movement of the barrier by controlling the energization of the motor (with "FWD" and "REV" outputs) and being responsive (reversing direction of motor) to changes in the sensed operational variable (abnormal torque load, which means higher current drawn) represented by the motor signals (col 8 lines 15-17) for changing the energization of the motor wherein (reversing, col 8 lines 6-17); the motor is constructed to exhibit an enhanced operating characteristic (accurate torque load measurement) of sensed operational variable to torque (inefficiency of motor at different operating temperatures of above col 8 lines 6-17 citation is effect of motor construction, enhanced operating characteristic is achieved in part by taking this into account) to improve (torque load is "more accurately" measured) the rapid detection by the controller of changes in a rate movement of the barrier (higher current means a higher torque load, which means an obstruction may be slowing the door) by detecting changes in the operational variable (as set forth above), wherein fig 7 items 90, 102 A and B, 104 A and B, and associated resistors constitute the power control arrangement, and wherein rapid response is the reversing as set forth above.

9. With regard to claims 3 and 9, Fellows discloses a barrier movement operator (fig 1) comprising an A.C. motor (fig 7 item 14 and fig 2 item 15) having a rotatable rotor connected to a barrier (col 3 lines 50-55) for movement thereof; sensing apparatus (fig 2 item 22, col 3 lines 57-62) to generate motor signals (that which indicates the frequency of which the slits are detected by the optical sensor of the col 3 lines 57-62 citation) representing an operational variable of the motor (rotational speed); controller (fig 7 item 90) for controlling movement of the barrier by controlling the energization of the motor (with "FWD" and "REV" outputs) and being responsive (reversing direction of motor) to changes in the sensed operational variable (door will slow if it is blocked by an object) represented by the motor signals (that which indicates the frequency of which the slits are detected by the optical sensor) for changing the energization of the motor wherein (reversing, col 8 lines 6-17); the motor is constructed to exhibit an enhanced operating characteristic of sensed operational variable to torque (inefficiency of motor at different operating temperatures of above col 8 lines 6-17 citation is effect of motor construction, enhanced operating characteristic is achieved in part by taking this into account) to improve the rapid detection by the controller of changes in a rate movement of the barrier (higher current means a higher torque load, which means an obstruction may be slowing the door) by detecting changes in the operational variable (as set forth above), wherein fig 7 items 90, 102 A and B, 104 A and B, and associated resistors constitute the power control arrangement, and wherein rapid response is the reversing as set forth above.

10. Claims 11-13 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 6,172,475 to Fitzgibbon et al.

11. With regard to claims 11-13, Fitzgibbon discloses a barrier movement operator comprising: a motor (fig 21 item 118) comprising a rotatable rotor coupled to a barrier (garage door, fig 1 item 24) for movement thereof between open (UP limit, col 16 line 65) and closed (DOWN limit, col 17 line 1) positions; position detecting apparatus (fig 21 item 40, and Hall effect sensors in the RPM module, col 7 line 42) generating position signals (logical true/false, fig 4 item 220, and fig 4 item 224) representing a position of the barrier during movement of the barrier (col 8 lines 1-13, and col 11 lines 36-40); motor speed detecting apparatus to generate motor signals (fig 4 item 224) representing a sensed operational variable (speed) of the motor (Hall effect sensors in the RPM module, col 7 line 42); a controller (fig 4 item 200) responsive to the position signals and the motor signals for controlling the motor to reverse a direction of movement (fig 20B item 980) of the barrier during a first range of sensed positions (not beyond the down limit setting, fig 20B) when the sensed operational variable speed of the motor is less than a first amount (fig 20B item 970, the first amount being 40%, in the event when user selects 40%, col 5 lines 11-18) determined by subtracting (100% - 60% = 40%) a first parameter (difference between 100% and user-selected amount) from an expected motor speed (100%) and for reversing the rotation direction of the motor (fig 20D item 1028) during a second range of sensed positions (beyond the down limit setting, fig 20B) when the sensed operational variable of the motor is less than a second amount

(fig 20B item 970, the second amount being 20%, in the event when user selects 20%, col 5 lines 11-18) determined by subtracting (100% - 80% = 20%) a second parameter (difference between 100% and user-selected amount) from an expected motor speed (100%) (RPM period is motor speed described in time between input Hall effect pulses, and if the measured RPM period is longer than the allowable period then the pulses are created further apart in time from each other than is permissible, meaning that the motor isn't turning quickly enough); and the second parameter is greater than the first parameter (as is apparent above). The second range occurs within 18 inches of the down position, as it occurs beyond the limit setting which extends to the ground, and the same reversing occurs when the door is only 3 inches from the DOWN limit (fig 20C item 988).

### *Claim Rejections - 35 USC § 103*

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,557,887 to Fellows et al.

15. With regard to claim 2, Fellows discloses all aspects of the invention of claim 1 but fails to explicitly disclose that the motor is an induction motor. However, it would have been obvious to one ordinarily skilled in the art at the time of the invention to include the limitation that the motor be of the induction type. The motivation to do so would have been that fig 7 shows no field coil for the motor, and the reference does not provide for a permanent magnet rotor, hence the rotor field necessary for rotation must be induced. Fellows, because it does not explicitly disclose that the motor is of the induction type, does not explicitly disclose that the rotor contain inductance powered rotor conductors. However, it would have been obvious to one ordinarily skilled in the art at the time of the invention to include this limitation. The motivation to do so would have been to provide for some manner in which the rotor may develop a magnetic field so that it may rotate. The above obvious limitations being taken into account, Fellows discloses controlling a conduction resistance of the rotor conductors (via TRIAC OUTPUT of fig 8), and the motor is driven using the TRIACS (col 7 lines 51-54). The driving is necessary to achieve the enhanced characteristic set forth in the rejection of claim 1.

***Allowable Subject Matter***

16. Claims 4, 7, and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

a. Lamm (US 6,952,087), Method for Controlling an Adjustment Process of a Part

b. Fellows et al (US 5,2222,327), Side Mount Garage Door Operator

c. Fitzgibbon et al (US 2005/0012488), Barrier Movement Operator Speed Control

d. Mullet et al (US 6,326,751), System and Related Methods for Detecting and Measuring the Operational Parameters of a Garage Door Utilizing a Lift Cable System

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher P. Heinrichs whose telephone number is 571-272-8397. The examiner can normally be reached on Monday through Thursday, 8:30am to 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on 571-272-2107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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